

**Claims**

1. An arrangement for matching impedance of an antenna in a radio apparatus, the arrangement comprising a radio-frequency power amplifier, means for measuring a reflected field, a matching circuit, and a control unit for controlling the matching circuit at least on the basis of the strength of the reflected field, wherein said means for measuring the reflected field comprises an element which separates the reflected field to a separate path and which is connected to an output of the power amplifier in transmission path of a signal to be transmitted.
2. An arrangement according to claim 1, said element separating the reflected field to a separate path is a circulator arranged to direct the reflected field to the control unit and, furthermore, to prevent the reflected field from propagating to the power amplifier.
3. An arrangement according to claim 1 or 2, said control unit comprising a detector of the strength of a radio-frequency alternating field and a control logic in order to change the impedance of the matching circuit.
4. An arrangement according to any one of the preceding claims, said matching circuit comprising at least one part the reactance of which can be controlled electrically.
5. An arrangement according to any one of the preceding claims, where the radio apparatus functions in at least two systems, said control unit comprising means for controlling the matching circuit also on the basis of frequency band information of said systems.
6. An arrangement according to any one of the preceding claims, said control unit comprising means for controlling the matching circuit also on the basis of output power information of the power amplifier.
7. An arrangement according to claim 4, said at least one part, the reactance of which can be controlled electrically, comprising at least one MEMS capacitor.
8. A mobile station comprising an antenna, an antenna matching circuit, a power amplifier feeding the antenna, means for measuring a field reflected from the antenna towards the power amplifier, means for attenuating the reflected field, and a control unit for controlling said matching circuit on the basis of the strength of the reflected field, wherein said means for measuring the reflected field comprises an

element which separates the reflected field to a separate path and which at the same time constitutes said means for attenuating the reflected field.

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